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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,257	11/26/2001	Martin Andrew Schlosser	35015/002	8623

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EXAMINER
KENNY, STEPHEN

ART UNIT	PAPER NUMBER
3726	17

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/994,257	SCHLOSSER ET AL	
	Examiner	Art Unit	
	Stephen J Kenny	3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-10,12-19,23-27 and 30-51* is/are pending in the application.

4a) Of the above claim(s) *34-49* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,7,8,12-19,23,24,26,27,30-33,50 and 51* is/are rejected.

7)☒ Claim(s) *3-6,9,10,22 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/9/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 16-18, 23, 26, 50 & 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanham in view of Van der Pol (US Patent No 6336370).

Regarding claim 1, Lanham discloses method of manufacturing a Coriolis flowmeter comprising: coupling a flow tube (401) means to a base (407, 409); affixing a driver (D) to said flow tube; coupling a pick-off means (RPO, LPO) to said flow tube; and affixing inlet and outlet ends of the flow tube to a process connection (411) (see Figure 4 & page 19, lines 11-20). Lanham discloses the claimed invention except for stating that the flow tube is constructed entirely of PFA material.

Van der Pol discloses a Coriolis flowmeter made from PFA material (column 4, lines 30-35 & claim 14). Note, Van der Pol discloses that the tube (4) can "consist" of PTFE or PFA material, wherein the term "consist" implies that tube is made of only PTFE or PFA material, therefore the tube is considered to be made entirely of PTFE or PFA material as claimed by applicant. PTFE or PFA material is beneficial in that it that it reduces measurement error and has more advantageous thermal characteristics. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form a Coriolis flowmeter as

disclosed by Lanham, with a tube made entirely of PTFE or PFA material as taught by Van der Pol in order to realize the advantages discussed above.

Regarding claim 16, Lanham discloses a process connection (411) coupled to the base (407, 409) (Figure 4).

Regarding claim 17, Lanham discloses forming a receiving hole (414) into said base (409) and securing the process connection (411) into said receiving hole (Figure 4).

Regarding claims 18 & 23, Lanham discloses adhering the process connection (904) into the receiving hole in said base (1202) (Figure 12 & page 23, line 10).

Regarding claim 26, Lanham discloses the flow tube (401) and the process connection (411) sealingly engaging one another (Figure 4 & page 18, lines 27).

Regarding claims 50 & 51, as discussed above Van der Pol teaches forming the tube entirely of PTFE of PFA material. It would have been obvious to one of ordinary skill at the time the invention was made to form the process connection (item 411 of Lanham) likewise, out of entirely PTFE or PFA material, in order to obtain the same advantages discussed above as well as to ensure the interface of the tube & process connection are made of a compatible material.

Claims 7, & 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanham/Van der Pol, as modified above, and further in view of Drahm et al. (US Patent Application Publication 2001/0035055 A1).

Lanham/Van der Pol, as modified above, disclose the instant invention except for bending of the flow tube is straightened (or bent) in a fixture while undergoing a heating process.

Drahm discloses bending of the flow tubes (paragraph 0096) in order to form a desired geometry. This bending operation is advantageous in that it increases the flexibility of the manufacturing process by allowing a given flow tube to be bent (or straightened) for use in various Coriolis flowmeter configurations. Furthermore, the examiner takes official notice that the application of heat to the flow tube to facilitate bending is a concept old and well known. Heating (or annealing) of a component that is to be machined provides more desirable material characteristics (for example, it makes metal components more malleable) as well as reducing any residual stresses that may occur to the deformation process. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form a Coriolis flowmeter as disclosed by Lanham/Van der Pol, by bending the flow tubes as taught by Drahm & the examiner's official notice in order to realize the advantages discussed above.

Claims 12-15, 19, & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanham/Van der Pol, as modified above, in view of Cage (US Patent No 5753827).

Lanham/Van der Pol, as modified above, disclose the instant invention except for bonding the driver and pick-off to the flow tube via a cyanoacrylate adhesive.

Cage discloses boding the magnets of the driver & pick-offs to the flow tube via an adhesive bonding (column 7, lines 35-40). The use of an adhesive to bond the magnets to the flow tube is advantageous in that the adhesive does not jeopardize the integrity of the flow tube as does a welding process (due to the localized heat during the welding/brazing process). Furthermore, the use of cyanoacrylate is considered merely a design choice, since applicant has not disclosed that cyanoacrylate solves any stated problem or is for any particular purpose, and it

appears a generic adhesive bonding agent would perform equally as well. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form a Coriolis flowmeter as disclosed by Lanham/Van der Pol while adhesively bonding the magnets of the driver & pick-offs as taught by Cage in order to realize the advantages discussed above.

Claims 27 & 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanham/Van der Pol, as modified above.

Lanham/Van der Pol, as modified above, disclose the instant invention except for the flow tube and process connection being joined via an adhesive or laser welding. It would have been an obvious matter of design choice to join via adhering or laser welding, since applicant has not disclosed that adhering/laser welding solves any stated problem or is for any particular purpose, and it appears that the flow tube (401) and process connection (411) of Lanham would perform equally well.

Note, in the event that applicant traverses this argument a U.S.C. 103(a) rejection will be raised in view of Cage (US Patent No 5753827) which discloses the claimed features in column 5, lines 24-26.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lanham/Van der Pol, as modified above, in view of Kane (US Patent No 4856346).

Lanham/Van der Pol disclose the instant invention except for the use of optical sensors.

Kane discloses utilizing optical sensors/pick-offs (column 4, lines 64+) which require corresponding opaque portions of the flow tube to facilitate the use of said optical sensor/pick-

off. The use of optical sensors is widely known, and advantageous in certain applications (depending on composition/density of fluid, flow tube material, etc.). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form a Coriolis flowmeter as disclosed by Lanham/Van der Pol with an optical sensor/pick-off as taught by Kane in order to be employed in a wider range of Coriolis flowmeter applications.

Claims 32, & 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanham/Van der Pol in view of Cage.

Lanham discloses the instant invention except for the use of a temperature sensing device.

Cage discloses using a resistance temperature sensing device (column 7, lines 52-61). A temperature sensing device is beneficial in that it provides additional information about the flow characteristics, such as temperature and density of the fluid. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form a Coriolis flowmeter as disclosed by Lanham/Van der Pol with a temperature measuring device as taught by Cage in order to realize the advantages discussed above.

Allowable Subject Matter

Claims 3-6, 9, 10, 22, 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 1/9/04 have been fully considered but they are not persuasive. Applicant has put forth the argument that the U.S.C. 103 rejection is improper because the Lanham reference is commonly owned by the same assignee of the instant invention. Although the applicant has provided the necessary statement to establish common ownership as set forth in MPEP 706.02(I)(2), the examiner does not find the mere allegation of common ownership provided by the applicant sufficient, and absent any objective evidence indicating common ownership, maintains the rejection as set forth above.

As indicated in MPEP 706.02(I)(2)II: "In rare instances, the examiner may have independent evidence that raises a material doubt as to the accuracy of applicant's representation of either (1) the common ownership of, or (2) the existence of an obligation to commonly assign, the application being examined and the applied U.S. patent or U.S. patent application publication reference. In such cases, the examiner may explain why the accuracy of the representation is doubted, and require objective evidence of common ownership of, or the existence of an obligation to assign, the application being examined and the applied reference as of the date of invention of the application being examined."

In this case the Assignee of the Lanham reference is MICRO MOTION INC. of Winchester Circle, Boulder CO – whereas the Assignee of the instant invention according to the documents supplied by applicant upon submission of the application is EMERSON ELECTRIC CO. of St. Louis MI. Clearly these are two different Assignees. Furthermore, the examiner is curious as to why the applicant is now arguing common ownership, when the applicant has been

made aware of the Lanham reference since the first office action (dating back to June of 2003) which relied on Lanham for both a U.S.C. 102 & 103 rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J Kenny whose telephone number is 703-306-0359. The examiner can normally be reached on mon - fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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3/21/04

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AU 3726